

**We Claim:**

1. A method for use in a node of a network, the method comprising the steps of:

receiving a connection request; and

5 assigning a link resource for connecting to a neighboring node by using at least one predefined sequence;

wherein the at least one predefined sequence resulted from a negotiation with the neighboring node.

10 2. The method of claim 1, wherein the assigning step includes the step of: accessing a table for selecting the link resource for assignment to the connection request, the table comprising link resources arranged in accordance with the at least one predefined sequence, wherein the link resources comprise ports of the node associated with the link.

15 3. The method of claim 2, wherein the network is an optical transport network.

4. The method of claim 3, wherein the link resources are selected from the group consisting of wavelengths, SONET-based tributaries, SDH-based 20 tributaries, and PDH-based tributaries.

5. The method of claim 1, wherein at least two predefined sequences, a first sequence and a second sequence, are determined from the negotiation and the assigning step includes the steps of:

25 determining if the connection request is a bi-directional request or a unidirectional request;

if a bi-directional request, selecting a first table, the first table comprising link resources arranged in accordance with the first sequence;

30 if a unidirectional request selecting a second table, the second table comprising link resources arranged in accordance with the second sequence; and

selecting the link resource from the selected table for assignment to the connection request and wherein the link resources comprise wavelengths of the node associated with the link.

35 6. A method for use in a node of a network, the method comprising the

steps of:

storing a table, wherein the table comprises resources associated with a link with an adjacent node; and

5 upon receipt of a connection request, selecting a resource from the table for use in connecting to the adjacent node, wherein the selection is performed in accordance with a predefined selection sequence, and wherein the predefined selection sequence was previously negotiated with the adjacent node.

10 7. The method of claim 6, wherein the link resource comprises at least wavelengths for use on the link.

15 8. Apparatus for use in a network, the apparatus comprising:  
a communications interface for use in negotiating with an adjacent node a selection sequence for selecting resources associated with a link to the adjacent node; and  
a processor, responsive to a connection request, for selecting a resource in accordance with the selection sequence for connecting to the adjacent node over the link.

20 9. The apparatus of claim 8, wherein the processor accesses a table for selecting the resource for assignment to the connection request, the table comprising the resources associated with the link arranged in accordance with the selection sequence, and wherein the resources associated with the link comprise ports associated with the link.

25 10. The apparatus of claim 9, wherein the network is an optical transport network.

30 11. The apparatus of claim 10, wherein the resources are selected from the group consisting of wavelengths, SONET-based tributaries, SDH-based tributaries, and PDH-based tributaries.

12. A node comprising:  
a memory means for storing a table, wherein the table comprises resources associated with a link with an adjacent node; and  
35 a processing means for use in processing a connection request such that

upon receipt of the connection request, the processing means selects a resource from the table for use in connecting to the adjacent node, wherein the selection is performed in accordance with a predefined selection sequence, and wherein the predefined selection sequence was previously negotiated with the adjacent node.

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13. The node of claim 12, wherein the node is in an optical transport network.

10 14. The node of claim 13, wherein the link resource comprises at least wavelengths for use on the link.